CLAIM AMENDMENT

1. (Original) An artificial disc for placement between adjacent vertebrae comprising:
at least two plate members, each plate member having a corresponding surface;
at least one means for temporarily stabilizing said plate members for a certain period of time to allow at least two of said plate members to osteo-integrate with adjacent vertebrae; and
at least one flexible supporting means interposed between said plate members and abutting said corresponding surfaces, said flexible support means flexibly supporting said plate members after said certain period of time.

2. (Original) The artificial disc as set forth in Claim 1 comprising a pair of plate members, wherein said corresponding surface of each of said pair of plate members faces each other.

3. (Currently Amended) The artificial disc as set forth in Claim 1 wherein said at ~~lest~~ least one flexible supporting means is made of a bio-compatible and compressible material.

4. (Original) The artificial disc as set forth in Claim 1 wherein said at least one flexible supporting means is made of titanium alloy.

5. (Original) The artificial disc as set forth in Claim 1 wherein said at least one flexible supporting means comprises a flexible disc.

6. (Original) The artificial disc as set forth in Claim 5 wherein said at least one flexible disc having opposed convex outer surfaces and each corresponding surface of each plate member correspondingly mates with each of said outer surface.

7. (Original) The artificial disc as set forth in Claim 6 wherein each of said corresponding surfaces is concavely shaped.

8. (Original) The artificial disc as set forth in Claim 1 wherein said at least one flexible supporting means comprises a bellows.

9. (Original) The artificial disc as set forth in Claim 1 further comprising an elastomeric polymer between said plate members.

10. (Original) The artificial disc as set forth in Claim 1 further comprising an elastomeric polymer within said flexible support means.

11. (Original) The artificial disc as set forth in Claim 1 wherein said at least one temporarily stabilizing means is made of a substantially rigid bio-compatible and bio-resorbable material.

12. (Original) The artificial disc as set forth in Claim 11 wherein said at least one temporarily stabilizing means comprises a rigid collar surrounding said flexible supporting means between said plate members such that upon resorption of said collar, said flexible supporting means remains between said plate members.

13. (Original) The artificial disc as set forth in Claim 11 wherein said at least one temporarily stabilizing means comprises a supplemental support adapted to attach to at least two of said vertebrae such that upon resorption of said supplemental support, said flexible supporting means remains between said plate members.

14. (Original) The artificial disc as set forth in Claim 13 wherein said supplemental support comprises photo-initiated polymer rod and screws.

15. (Original) The artificial disc as set forth in Claim 13 wherein said supplemental support comprises photo-initiated polymer plate and screws.

16. (Original) The artificial disc as set forth in Claim 8 wherein said at least one temporarily stabilizing means comprises a substantially rigid bio-resorbable material surrounding and adjacent said bellows between said plate members such that upon resorption of said material, said bellows remains between said plate members.

17. (Original) The artificial disc as set forth in Claim 11 wherein said substantially rigid bio-compatible and bio-resorbable material is a polymer that is photocurable by ultra-violet light in the range of 350-385 nanometers in wavelength.

18. (Original) The artificial disc as set forth in Claim 11 wherein said substantially rigid bio-compatible and bio-resorbable material is a polymer that is photocurable by visible light in the range of 385-550 nanometers in wavelength.

19. (Original) The artificial disc as set forth in Claim 11 wherein said substantially rigid bio-compatible and bio-resorbable material is pliable and putty-like in an uncured state and not pliable in the cured state.

20. (Original) The artificial disc as set forth in Claim 11 wherein said substantially rigid bio-compatible and bio-resorbable material is colored in an uncured state and turns clear in the cured state.

21. (Currently Amended) The artificial disc as set forth in Claim 1 comprising two or more ~~sets~~ pair of plate members, at least one plate member from each set are interconnected and each ~~set~~ pair of plate members are independently and flexibly supported by each of said flexible supporting means.

22. (Original) The combination of an artificial disc and a substance comprising:

at least two plate members, each plate member having a corresponding surface;

at least one means for temporarily stabilizing said plate members for a certain period of time to allow at least two of said plate members to osteo-integrate with said adjacent vertebrae;

at least one flexible supporting means interposed between said plate members and abutting said corresponding surfaces, said flexible support means flexibly supporting said plate members after said certain period of time; and

a substance that promotes osseous integration and bone in-growth adjacent to said plate members.

23. (Original) The combination of an artificial disc and a substance comprising:

at least two plate members, each plate member having a corresponding surface;

at least one means for temporarily stabilizing said plate members for a certain period of time to allow at least two of said plate members to osteo-integrate with said adjacent vertebrae;

at least one flexible supporting means interposed between said plate members and abutting said corresponding surfaces, said flexible support means flexibly supporting said plate members after said certain period of time; and

a substance with hemostatic drug eluting factors to control bleeding adjacent to said plate members.

24. (Original) The combination of an artificial disc and a substance comprising:

at least two plate members, each plate member having a corresponding surface;

at least one means for temporarily stabilizing said plate members for a certain period of time to allow at least two of said plate members to osteo-integrate with said adjacent vertebrae;

at least one flexible supporting means interposed between said plate members and abutting said corresponding surfaces, said flexible support means flexibly supporting said plate members after said certain period of time; and

a substance with anti-microbial drug eluting factors to control and prevent infection adjacent to said plate members.

25. (Original) The combination of an artificial disc and a substance comprising:

at least two plate members, each plate member having a corresponding surface;

at least one means for temporarily stabilizing said plate members for a certain period of time to allow at least two of said plate members to osteo-integrate with said adjacent vertebrae;

at least one flexible supporting means interposed between said plate members and abutting said corresponding surfaces, said flexible support means flexibly supporting said plate members after said certain period of time; and

a substance with anti-tumor drugs to control or eradicate tumors adjacent to said plate members.

26. (Original) The combination of an artificial disc and a substance comprising:

at least two plate members, each plate member having a corresponding surface;

at least one means for temporarily stabilizing said plate members for a certain period of time to allow at least two of said plate members to osteo-integrate with said adjacent vertebrae;

at least one flexible supporting means interposed between said plate members and abutting said corresponding surfaces, said flexible support means flexibly supporting said plate members after said certain period of time; and

a substance with pain-controlling factors to control pain adjacent to said plate members.

27. (Original) A method of employing an artificial disc for achieving stability of adjacent vertebrae and preserving the inter-disc space comprising the steps of:

surgically exposing an area for placement of said artificial disc between adjacent vertebrae;

inserting said artificial disc having at least two plate members, with each plate member having a surface, in said space between adjacent vertebral end plates with at least two corresponding plate member abutting a corresponding vertebrae;

providing at least one means for temporarily stabilizing said plate members in said space for a certain period of time to allow at least two of said plate members to osteo-integrate with said adjacent vertebrae; and

providing at least one flexible supporting means interposed between and abutting said plate members, said flexible supporting means flexibly supporting said plate members after said certain period of time.

28. (Original) The method as in Claim 27 wherein said at least one temporarily stabilizing means comprises a bio-compatible, bio-resorbable material.

29. (Original) The method as in Claim 28 wherein said bio-compatible, bio-resorbable material is a polymer that is photocurable by ultra-violet light in the range of 350-385 nanometers in wavelength.

30. (Original) The method as in Claim 28 wherein said bio-compatible, bio-resorbable material is a polymer that is photocurable by visible light in the range of 385-550 nanometers in wavelength.

31. (Original) The method as in Claim 28 wherein said bio-resorbable material is pliable and putty-like in an uncured state and not pliable in the cured state.

32. (Original) The method as in Claim 28 wherein said bio-resorbable material is colored in an uncured state and turns clear in the cured state.

33. (Original) The method as in Claim 28 wherein said bio-resorbable material contains a substance that promotes osseous integration and bone in-growth.

34. (Original) The method as in Claim 28 wherein said bio-resorbable material contains a substance with hemostatic drug eluting factors to control bleeding.

35. (Original) The method as in Claim 28 wherein said bio-resorbable material contains a substance with anti-microbial drug eluting factors to control and prevent infection.

36. (Original) The method as in Claim 28 wherein said bio-resorbable material contains a substance with anti-tumor drugs to control or eradicate tumors.

37. (Original) The method as in Claim 28 wherein said bio-resorbable material contains a substance with pain-controlling factors to control pain.

38. (New) The artificial disc as set forth in Claim 13 wherein said supplemental support comprises bio-resorbable polymer in the form of rods and screws.

39. (New) The artificial disc as set forth in Claim 13 wherein said supplemental support comprises bio-resorbable polymer in the form of plate and screws.

40. (New) The artificial disc as set forth in Claim 1 wherein said comprising two or more modular sets of first and second plate members, means for connecting said each set of plate members, wherein each set of plate members are independently and flexibly supported by each of said flexible supporting means.

41. (New) The artificial disc as set forth in Claim 40 wherein said connecting means selectively connects and reconnects said each modular set of plate members.

42. (New) The method as in Claim 28 wherein said bio-resorbable material is colored in an uncured state and changes to a different color in the cured state.